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MYOCARDIAL ISCHEMIA AND INFARCTION

IMPACT OF TIME TO REPERFUSION ON MICROVASCULAR FUNCTION AND LONG-TERM OUTCOME AFTER PRIMARY ANGIOPLASTY FOR FIRST ANTERIOR WALL MYOCARDIAL INFARCTION

ACC Poster Contributions
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Background: The relation between time to reperfusion and long-term clinical outcome after primary angioplasty for acute myocardial infarction (AMI) has not been clarified. Several studies have demonstrated the link between impaired microvascular function and unfavorable clinical outcome. We assessed the impact of time to reperfusion on microvascular function and long-term outcome after AMI.

Methods: We studied 310 consecutive patients with a first anterior wall AMI who underwent primary angioplasty within 12 h of onset. We classified the patients into 3 categories: early (<2 h), intermediate (2-6 h), late (6-12 h). Using a Doppler guidewire, microvascular function was evaluated by the presence of systolic flow reversal (SFR), diastolic deceleration time (DDT), and coronary flow reserve (CFR). Adverse cardiac events combining death, recurrent MI, and congestive heart failure were recorded during an average follow-up of 57 ± 30 months.

Results: Early reperfusion was associated with a lower incidence of SFR (p=0.006), longer DDT (p=0.01), and higher CFR (p=0.001). At multivariate analysis, early reperfusion was independently and inversely associated with long-term adverse cardiac events (odds ratio 0.14, p=0.002).

Conclusion: Early reperfusion is related to more preserved microvascular function and better long-term outcome after primary angioplasty for anterior AMI.